

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method of cleaning a surface of a wafer placed in a brush box, comprising:

scrubbing the surface of the wafer with a cleaning brush that applies a chemical solution to the surface of the wafer;

removing the cleaning brush from contact with the surface of the wafer; and

delivering a flow of water to the surface of the wafer while the cleaning brush is removed from the surface of the wafer, the delivering being configured to substantially remove the chemical solution from the surface of the wafer.

2. (Original) A method of cleaning a surface of a wafer as recited in claim 1, wherein the cleaning brush that applies the chemical solution implements a through the brush (TTB) chemical delivery technique.

3. (Currently Amended) A method of cleaning a surface of a wafer as recited in claim 1, wherein the scrubbing is performed in a the brush box, the brush box having the cleaning brush and a second cleaning brush.

4. (Original) A method of cleaning a surface of a wafer as recited in claim 3, wherein the second cleaning brush is implemented to scrub a bottom surface of the wafer.

5. (Original) A method of cleaning a surface of a wafer as recited in claim 1, wherein the removing of the cleaning brush from contact with the surface of the wafer completes a chemical cleaning operation.

6. (Original) A method of cleaning a surface of a wafer as recited in claim 1, wherein the delivering of the flow of water to the surface of the wafer further comprises:

setting a first delivery source and a second delivery source over the surface of the wafer in order to deliver the flow of water to the surface of the wafer; and

wherein between about 150 ml/minute and about 750 ml/minute of water flows through each of the first and second delivery sources.

7. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

setting a pressure ranging between about 20 psi and about 50 psi for the first delivery source and the second delivery source.

8. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

setting a time ranging between about 5 seconds and about 60 seconds for the delivering of the flow of water to the surface of the wafer.

9. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

continuing the delivering of the flow of water to the surface of the wafer until a pH of fluids over the surface of the wafer is at least about 4 or greater.

10. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

continuing the delivering of the flow of water to the surface of the wafer until a pH of fluids over the surface of the wafer is at most about 8.5 or less.

11. (Original) A method of cleaning a surface of a wafer as recited in claim 1, wherein the chemical solution on the cleaning brush is maintained at a substantially constant chemical concentration during the scrubbing and during the delivering.

12. (Currently Amended) A method for cleaning a semiconductor wafer, comprising:

introducing the wafer into a brush box;

supporting the wafer with a bottom brush and a set of rollers;

scrubbing a top surface of the wafer with a top cleaning brush that applies a chemical solution to the surface of the wafer;

removing the top cleaning brush from the top surface of the wafer while keeping the wafer in the brush box; and

rinsing the top surface of the semiconductor wafer with a cleaning fluid while the top cleaning brush is removed from the top surface.

13. (Original) The method of claim 12, wherein the cleaning fluid is deionized water.

14. (Original) The method of claim 12, wherein the method operation of supporting the wafer with a bottom brush and a set of rollers includes, rotating the wafer at a speed of about 20 rotations per minute.

15. (Original) The method of claim 12, further comprising:
removing the wafer from the brush box; and
repeating the scrubbing with another wafer without rinsing the top cleaning brush.

16. (New) A method of cleaning a surface of a wafer as recited in claim 6, further comprising delivering the flow of water to the surface of the wafer through a nozzle.

17. (New) The method of claim 12, further comprising:

setting a time ranging between about 5 seconds and about 60 seconds for the rinsing of the top surface of the wafer with a cleaning fluid.

18. (New) The method of claim 12, further comprising:

continuing the rinsing of the top surface of the wafer until a pH of fluids over the top surface of the wafer is at least 4 or greater.

19. (New) The method of claim 12, further comprising:

continuing the rinsing of the top surface of the wafer until a pH of fluids over the top surface of the wafer is no greater than about 8.5.